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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,464	05/24/2004	Takeshi Sakamoto	118870	9230

25944 7590 11/15/2006

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EXAMINER

WONG, EDNA

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/788,464

Applicant(s)

SAKAMOTO ET AL.

Examiner

Edna Wong

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>October 19, 2006</u> . | 6) <input type="checkbox"/> Other: _____ |

This is in response to the Amendment dated September 21, 2006. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Arguments

Claim Rejections - 35 USC § 102

I. Claims **11-15** have been rejected under 35 U.S.C. 102(b) as being anticipated by **Jozefowicz** (US Patent No. 5,167,793).

The rejection of claims 11-15 under 35 U.S.C. 102(b) as being anticipated by **Jozefowicz** has been withdrawn in view of Applicants' amendment.

II. Claim **16** has been rejected under 35 U.S.C. 102(b) as being anticipated by **Jozefowicz** (US Patent No. 5,167,793).

The rejection of claim 16 under 35 U.S.C. 102(b) as being anticipated by **Jozefowicz** has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 103

I. Claims **1-8** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Du Rose et al.** (US Patent No. 3,183,067) in combination with **Hamamura et al.** (US Patent No. 4,959,273), and **Lowenheim** ("Electroplating", © 1978, pp. 212-213).

The rejection of claims 1-8 under 35 U.S.C. 103(a) as being unpatentable over

Du Rose et al. in combination with Hamamura et al., and Lowenheim has been withdrawn in view of Applicants' amendment.

II. Claims **9 and 10** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Du Rose et al.** (US Patent No. 3,183,067) in combination with **Hamamura et al.** (US Patent No. 4,959,273), and **Lowenheim** ("Electroplating", © 1978, pp. 212-213).

The rejection of claims 9 and 10 under 35 U.S.C. 103(a) as being unpatentable over Du Rose et al. in combination with Hamamura et al., and Lowenheim has been withdrawn in view of Applicants' amendment.

Response to Amendment

Claim Rejections - 35 USC § 102

Plating Bath

I. Claims **11-15** are rejected under 35 U.S.C. 102(b) as being anticipated by **JP 2002-212775 ('775)**.

JP '775 teaches a plating bath, comprising:

- (a) a nickel source (pages 2-3, [0007]);
- (b) a conductive salt (= an electric conduction adjuvant) [page 3, [0012]];
- (c) a pH stabilizer (= a buffer) [page 3, [0008]],

wherein the concentration of the nickel source is 0.3 mol/l to 0.7 mol/l on the

nickel atom basis (= 7 g/l to 80 g/l nickel ion) [pages 2-3, [0007]], and

the conductivity of the plating bath is 80 mS/cm or over (*inherent*) [MPEP § 2112.01(II)].

The nickel source is selected from the group consisting of nickel sulfate, nickel chlorides, nickel bromides, nickel acetate and nickel pyrophosphate (= nickel sulfate, nickel chloride, nickel aminosulfonate, nickel bromide, nickel acetate, etc.) [pages 2-3, [0007]].

The conductive salt is selective the group consisting of ammonium sulfate, sodium sulfate, potassium sulfate, lithium sulfate, magnesium sulfate, ammonium chloride, sodium chloride, potassium chloride, lithium chloride, magnesium chloride, ammonium bromide, sodium bromide, potassium bromide, lithium bromide and magnesium bromide (= sodium sulfate, ammonium chloride, etc.) [page 3, [0012]].

The pH stabilizer is selected from the group consisting of boric acid, ammonium borate, sodium borate, potassium borate, lithium borate, magnesium borate and ammonia (= boric acid) [page 3, [0009]].

As to wherein the plating bath is used to form a protective film on a magnet body including a rare-earth element by electroplating, as recited in claim 12, this limitation is not a component of the plating bath, and thus, fails to distinguish the plating bath from the prior art.

Since JP '775 teaches all of the limitations recited in the instant claims, the

reference is deemed to be anticipatory.

II. Claim **16** is rejected under 35 U.S.C. 102(b) as being anticipated by **JP 2002-212775 ('775)**.

JP '775 teaches a plating bath, comprising:

(a) 0.3 mol/l to 0.7 mol/l of nickel ions (= 7 g/l to 80 g/l nickel ion) [pages 2-3, [0007]];

(b) at least one ion selected from the group consisting of sulfate ions, chlorine ions, bromine ions, acetate ions and pyrophosphate ions (= chlorine ions) [pages 2-3, [0007]];

(c) at least one ion selected from the group consisting of sodium ions, potassium ions, lithium ions, magnesium ions and ammonium ions (= sodium sulfate, ammonium chloride, etc.) [page 3, [0012]]; and

(d) at least one ion selected from the group consisting of borate ions and ammonium ions (= boric acid) [page 3, [0009]],

wherein the conductivity of the plating bath is 80 mS/cm or over (*inherent*)

[MPEP § 2112.01(II)].

Since JP '775 teaches all of the limitations recited in the instant claims, the reference is deemed to be anticipatory.

Claim Rejections - 35 USC §103

Method

I. Claims 1-8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **JP 2002-212775** ('775) in combination with **Du Rose et al.** (US Patent No. 3,183,067).

JP '775 teaches a method of manufacturing a rare-earth magnet, comprising the steps of:

(a) electroplating a first protective film including nickel (= a nickel plating coat) [page 1, [0001]] on a metal body (= R-Fe-B system permanent magnet) [page 4, [0016]] with a first plating bath including:

- (i) a nickel source (pages 2-3, [0007]);
- (ii) a conductive salt (= an electric conduction adjuvant) [page 3, [0012]];
- (iii) a pH stabilizer (= a buffer) [page 3, [0008]],

and having concentration of the nickel source of 0.3 mol/l to 0.7 mol/l on the nickel atom basis (= 7 g/l to 80 g/l nickel ion) [pages 2-3, [0007]], and a conductivity of the plating bath is 80 mS/cm or over (*inherent*) [MPEP § 2112.01(II)].

(b) forming a second protective film including nickel on the first protective film (= 2nd layer nickel plating coat was formed on the 1st layer nickel plating coat) [col. 7, [0034]].

The nickel source is selected from the group consisting of nickel sulfate, nickel chlorides, nickel bromides, nickel acetate and nickel pyrophosphate (= nickel sulfate,

nickel chloride, nickel aminosulfonate, nickel bromide, nickel acetate, etc.) [pages 2-3, [0007]].

The conductive salt is selective the group consisting of ammonium sulfate, sodium sulfate, potassium sulfate, lithium sulfate, magnesium sulfate, ammonium chloride, sodium chloride, potassium chloride, lithium chloride, magnesium chloride, ammonium bromide, sodium bromide, potassium bromide, lithium bromide and magnesium bromide (= sodium sulfate, ammonium chloride, etc.) [page 3, [0012]].

The pH stabilizer is selected from the group consisting of boric acid, ammonium borate, sodium borate, potassium borate, lithium borate, magnesium borate and ammonia (= boric acid) [page 3, [0009]].

The second protective film is formed by electroplating with a second plating bath (= same electrolytic nickel plating conditions as in Example 4) [page 7, [0034]] including:

- (i) a nickel source (pages 2-3, [0007]);
- (ii) a conductive salt (= an electric conduction adjuvant) [page 3, [0012]];
- (iii) a pH stabilizer (= a buffer) [page 3, [0008]],

and having a conductivity of 80 mS/cm or over (*inherent*) [MPEP § 2112.01(II)].

The nickel source is selected from the group consisting of nickel sulfate, nickel chlorides, nickel bromides, nickel acetate and nickel pyrophosphate (= nickel sulfate, nickel chloride, nickel aminosulfonate, nickel bromide, nickel acetate, etc.) [pages 2-3, [0007]].

The conductive salt is selective the group consisting of ammonium sulfate,

sodium sulfate, potassium sulfate, lithium sulfate, magnesium sulfate, ammonium chloride, sodium chloride, potassium chloride, lithium chloride, magnesium chloride, ammonium bromide, sodium bromide, potassium bromide, lithium bromide and magnesium bromide (= sodium sulfate, ammonium chloride, etc.) [page 3, [0012]].

The pH stabilizer is selected from the group consisting of boric acid, ammonium borate, sodium borate, potassium borate, lithium borate, magnesium borate and ammonia (= boric acid) [page 3, [0009]].

The method of JP '775 differs from the instant invention because JP '775 does not disclose the following:

- a. Wherein the second protective film includes sulfur, as recited in claim 1.
- b. Wherein the second plating bath includes an organic sulfur compound, as recited in claim 5.

JP '775 teaches brighteners containing sulfur in the nickel plating liquid (page 3, [0012]).

Like JP '775, Du Rose teaches a nickel electroplating method. Du Rose teaches that improved corrosion protection of decorative deposits has been obtained through the use of "duplex" nickel coatings (col. 1, lines 25-34). Uniformly corrosion resistant duplex nickel coated articles may be obtained by controlling the amounts of sulfur contained in both of the nickel coatings making up the duplex deposit. Sulfur in the nickel deposits is derived from the sulfo-oxygen control agents and the amount thus derived is increased

by the presence of so-called brighteners containing sulfur, such as, for instance, thiourea, diethyl thiourea and isothioureadipropionic acid (col. 1, lines 48-58).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the second protective film and wherein the second plating bath includes an organic sulfur compound described by JP '775 with wherein the second protective film includes sulfur; and wherein the second plating bath includes an organic sulfur compound because uniformly corrosion resistant duplex nickel coated articles would have been obtained by controlling the amounts of sulfur contained in both of the nickel coatings making up the duplex deposit as taught by Du Rose (col. 1, lines 48-58).

Sulfur in the nickel deposits is derived from the sulfo-oxygen control agents and the amount thus derived is increased by the presence of so-called brighteners containing sulfur as taught by Du Rose (col. 1, lines 48-58).

II. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **JP 2002-212775** ('775) in combination with **Du Rose et al.** (US Patent No. 3,183,067).

JP '775 teaches a method of manufacturing a rare-earth magnet, comprising the steps of:

(a) electroplating a first protective film including nickel (= a nickel plating coat) [page 1, [0001]] on a magnet body including a rare-earth element (= R-Fe-B system permanent magnet) [page 4, [0016]] with a first plating bath including:

(i) 0.3 mol/l to 0.7 mol/l of nickel ions (= 7 g/l to 80 g/l nickel ion) [pages 2-3, [0007]];

(ii) at least one ion selected from the group consisting of sulfate ions, chlorine ions, bromine ions, acetate ions and pyrophosphate ions (= chlorine ions) [pages 2-3, [0007]];

(iii) at least one ion selected from the group consisting of sodium ions, potassium ions, lithium ions, magnesium ions and ammonium ions (= sodium sulfate, ammonium chloride, etc.) [page 3, [0012]]; and

(iv) at least one ion selected from the group consisting of borate ions and ammonium ions (= boric acid) [page 3, [0009]], and

having a conductivity of the plating bath is 80 mS/cm or over (*inherent*) [MPEP § 2112.01(II)]; and

(b) forming a second protective film including nickel on the first protective film (= 2nd layer nickel plating coat was formed on the 1st layer nickel plating coat) [col. 7, [0034]].

The second protective film is formed by electroplating with a second plating bath (= same electrolytic nickel plating conditions as in Example 4) [page 7, [0034]] including:

(i) nickel ions (pages 2-3, [0007]);

(ii) at least one ion selected from the group consisting of sulfate ions, chlorine ions, bromine ions, acetate ions and pyrophosphate ions (= chlorine ions) [pages 2-3, [0007]];

(iii) at least one ion selected from the group consisting of sodium ions, potassium ions, lithium ions, magnesium ions and ammonium ions (= sodium sulfate, ammonium chloride, etc.) [page 3, [0012]]; and

(iv) at least one ion selected from the group consisting of borate ions and ammonium ions (= boric acid) [page 3, [0009]].

The method of JP '775 differs from the instant invention because JP '775 does not disclose the following:

- a. Wherein the second protective film includes sulfur, as recited in claim 9.
- b. Wherein the second plating bath includes an organic sulfur compound, as recited in claim 10.

JP '775 teaches brighteners containing sulfur in the nickel plating liquid (page 3, [0012]).

Like JP '775, Du Rose teaches a nickel electroplating method. Du Rose teaches that improved corrosion protection of decorative deposits has been obtained through the use of "duplex" nickel coatings (col. 1, lines 25-34). Uniformly corrosion resistant duplex nickel coated articles may be obtained by controlling the amounts of sulfur contained in both of the nickel coatings making up the duplex deposit. Sulfur in the nickel deposits is derived from the sulfo-oxygen control agents and the amount thus derived is increased by the presence of so-called brighteners containing sulfur, such as, for instance, thiourea, diethyl thiourea and isothioureadipropionic acid (col. 1, lines 48-58).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the second protective film and wherein the second plating bath includes an organic sulfur compound described by JP '775 with wherein the second protective film includes sulfur; and wherein the second plating bath includes an organic sulfur compound because uniformly corrosion resistant duplex nickel coated articles would have been obtained by controlling the amounts of sulfur contained in both of the nickel coatings making up the duplex deposit as taught by Du Rose (col. 1, lines 48-58).

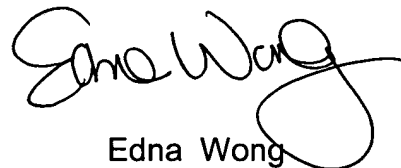
Sulfur in the nickel deposits is derived from the sulfo-oxygen control agents and the amount thus derived is increased by the presence of so-called brighteners containing sulfur as taught by Du Rose (col. 1, lines 48-58).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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A handwritten signature in black ink, appearing to read "Edna Wong", with a large, stylized loop at the end of the last name.

Edna Wong
Primary Examiner
Art Unit 1753

EW
November 9, 2006